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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/430,437	10/29/1999	JAYANTA KUMAR DEY	99-849	7301

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EXAMINER

BIENEMAN, CHARLES A

ART UNIT	PAPER NUMBER
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2176

DATE MAILED: 03/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/430,437

Applicant(s)

DEY ET AL.

Examiner

Charles A. Bieneman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This action is responsive to the following communications: original application filed on October 29, 1999, Preliminary Amendment filed on June 28, 2000, and Information Disclosure Statement filed April 22, 2002.
2. Claims 1-52 are pending. Claims 1 and 52 are independent claims.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. **Claims 1-52** are rejected under the judicially created doctrine of double patenting over claims 1-30 of U. S. Patent No. 6,490,580 B1 and claims 1-24 of U.S. Patent Number 6,493,707 B1 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patents.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: identifying a portion of a temporal document in response to a signal of interest at a particular time, selecting text associated with the identified portion of the temporal document, weighting each term in the text selected, and finding related documents.

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Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. The term "highest" in **claims 25-26 and 51-52** is a relative term which renders the claims indefinite. The term "highest" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. These claims are rejected accordingly.

7. **Claims 26 and 52** each recite the limitation "scores" in line 2. There is insufficient antecedent basis for this limitation in the claims, and they are rejected accordingly. It is noted that the limitation is not recited in any of these claims' base claims, including their direct parents, claims 16 and 42, respectively.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. **Claims 1-14, 18-19, 27-40, and 44-45** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,708,845 to Wistendahl et al., issued January 13, 1998, in view of U.S. Patent Number 6,199,076 B1 to Logan et al., issued March 6, 2001, filed October 2, 1996 and U.S. Patent Number 4,845,697 to Giddings, issued July 4, 1989, filed November 27, 1987. With respect to the rejection of each dependent claim below, the preceding rejection(s) of the relevant base claim(s) is incorporated therein.

Regarding **independent claims 1 and 27**, Wistendahl et al. teach (a) in response to a signal of interest at a particular time during the temporal document, identifying a portion of the temporal document for which related documents are to be found and (b) selecting text associated with the portion of the temporal document identified. (Wistendahl et al., col. 7, lines 55-59.)

Further, Wistendahl et al. do not teach (c) weighting each term in the text selected by a function $W(t)$ according to the time t at which the term occurs relative to the time at which the signal of interest occurs and (d) finding the related documents by use of information retrieval techniques as applied to the text selected. However, Logan et al. teach weighting each term according to the number of times it occurs within a certain program segment announcement (*i.e.*, time period) and using the weighted term in a search (Logan et al., col. 39, lines 20-37.)

Moreover, Giddings would have suggested to one of ordinary skill in the art a combining and

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extending Wistendahl et al. and Logan et al. to use a function $W(t)$ according to the time t at which the term occurs relative to the time at which the signal of interest occurs inasmuch as Giddings teaches a technique for searching video data in which, upon a failure to find a predetermined frame, a search is conducted back and forth of successive frames surrounding the given frame for a given time period. (Giddings, col. 5, lines 27-42.) One of ordinary skill in the art would have been further motivated to implement a function $W(t)$ by the recognition that a search result close in time to the signal of interest would have been more likely to have been relevant. Therefore, it would have been obvious to one of ordinary skill in the art to have combined Wistendahl et al., Logan et al., and Giddings to weight each term in the text selected by a function $W(t)$ according to the time t at which the term occurs relative to the time at which the signal of interest occurs and (d) find the related documents by use of information retrieval techniques as applied to the text selected.

Regarding **dependent claims 2 and 28**, Wistendahl et al. teach that the temporal document is video and audio material inasmuch as they teach a movie with audio and video components. (Wistendahl et al., col. 7, lines 55-56.)

Regarding **dependent claims 3 and 29**, Wistendahl et al. teach that the video material is stored on a video server inasmuch as this element is inherent in the teaching of large digital libraries transmitted to subscribers. (Wistendahl et al., col. 6, line 58, col. 7, line 6.)

Regarding **dependent claims 4 and 30**, Wistendahl et al. do not explicitly teach applying speech recognition techniques to the audio component of the identified temporal document. However, Logan et al. suggest this step inasmuch as they teach searching a collateral text file (Logan et al., col. 39, lines 10-14) and also teach voice input to navigate program files. (Logan

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et al., Abstract.) Therefore, it would have been obvious to one of ordinary skill in the art to have applied speech recognition techniques to the audio component of the identified temporal document.

Regarding **dependent claims 5 and 31**, Wistendahl et al. teach pop-up movie trivia, which is the equivalent of close-captioned text. (Wistendahl et al., col. 7, lines 55-59.)

Regarding **dependent claims 6 and 32**, Wistendahl et al. teach the temporal document including text as discussed above regarding claims 5 and 31.

Regarding **dependent claims 7 and 33**, Wistendahl et al. teach that the document text varies with time and the text selected is that portion of the temporal document identified. (Wistendahl et al., col. 7, lines 53-59.)

Regarding **dependent claims 8 and 34**, Wistendahl et al. does not teach the text including news bulletins, weather, sports scores, or stock information. However, Logan et al. suggest extending Wistendahl et al. to include such a step inasmuch as they teach that there is a need to be able to search through news, weather, and business data. (Logan et al., col. 1, line 10 – col. 2, line 3.)

Regarding **dependent claims 9 and 35**, Wistendahl et al. do not teach that $W(t)$ is equal for all times between t_1 before the signal of interest is given and t_2 before the signal of interest and zero for all other times. However, Logan et al. teach searching a program segment which is equivalent to $W(t)$ is equal for all times between t_1 before the signal of interest is given and t_2 before the signal of interest and zero for all other times. Moreover, one of ordinary skill in the art would have recognized that a user might want to search within a given time frame only and not without it. Therefore, it would have been obvious to one of ordinary skill in the art to have

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specified that $W(t)$ is equal for all times between t_1 before the signal of interest is given and t_2 before the signal of interest and zero for all other times.

Regarding **dependent claims 10 and 36**, Wistendahl et al. do not explicitly teach that t_1 is 2 seconds and t_2 is 30 seconds. However, Wistendahl et al. do teach that the concept of setting time intervals during video display was known in the art. (Wistendahl et al., col. 5, lines 23-28.) Moreover, one of ordinary skill in the art would have recognized that the interval within a search was done should start a few seconds, *i.e.*, 2 seconds before the signal of interest was received to account for the user's reaction time and that the search should go a certain amount back in time, *i.e.*, 30 seconds.

Regarding **dependent claims 11 and 37**, Wistendahl et al. do not teach that $W(t)$ is equal for all times between t_1 before the signal of interest is given and t_2 before the signal of interest and decreases from t_1 until the time of the signal, and increases from a time t_3 before the signal is given to the time t_2 , and is zero for all other times.

Regarding the recitation that $W(t)$ is equal for all times between t_1 before the signal of interest is given and t_2 before the signal of interest, the rejection of claims 9 and 35 above is fully incorporated herein.

Further, it would have been obvious to one of ordinary skill in the art to decrease $W(t)$ from t_1 until the time of the signal because one of ordinary skill in the art would have recognized that the closer in time to the signal of interest the more likely it was that elapsed time was due only to a user's reaction time and not to interest in the elapsed material.

Further, it would have been obvious to one of ordinary skill in the art to decrease $W(t)$ from t_2 until t_3 because one of ordinary skill in the art would have recognized that, up to a certain

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point, as the time got closer to the time when the signal of interest was expressed, it would be more likely that time period contained the subject matter in which the user was interested.

Regarding **dependent claims 12 and 38**, Wistendahl et al. do not explicitly teach that t_1 is 2 seconds and t_2 is 15 seconds, and t_3 is 30 seconds. However, Wistendahl et al. do teach that the concept of setting time intervals during video display was known in the art. (Wistendahl et al., col. 5, lines 23-28.) Moreover, one of ordinary skill in the art would have recognized that the interval within a search was done should start a few seconds, *i.e.*, 2 seconds before the signal of interest was received to account for the user's reaction time and that the search should go a certain amount back in time, *i.e.*, 30 seconds, and also that there would be a certain point, *i.e.*, 15 seconds, within the 30 seconds at which the likelihood of finding relevant subject matter would begin to diminish.

Regarding **dependent claims 13 and 39**, Wistendahl et al. does not disclose $W(t)$ behaving linearly, but it would have been obvious to one of ordinary skill in the art to have it do so because one of ordinary skill in the art would have recognized that the likelihood of finding relevant search results would most likely increase or decrease linearly with time.

Regarding **dependent claims 14 and 40**, the rejection of claims 12 and 38 above is fully incorporated herein.

Regarding **dependent claims 18 and 44**, Wistendahl et al. teach accessing related documents through the Internet. (Wistendahl et al., col. 5, lines 14-15.)

Regarding **dependent claims 19 and 45**, Wistendahl et al. teach selecting the related documents from among a collection of documents which may be accessed through the Internet. (Wistendahl et al., col. 5, lines 14-15; col. 8, lines 66-67.) Wistendahl et al. do not explicitly

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teach utilizing databases comprising information about the collection but it would have been obvious to one of ordinary skill in the art to utilize such databases because one of ordinary skill in the art would have recognized that utilizing a database to select documents was an efficient and reliable way of doing so.

11. **Claims 20-21, 24-25, and 46-47, and 50-51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wistendahl et al., Logan et al., and Giddings as applied to claims 19 and 45 above, and further in view of U.S. Patent Number 6,182,065 B1 to Yeomans, issued January 30, 2001, filed April 22, 1998.

Regarding **dependent claims 20 and 46**, Wistendahl et al. do not teach selecting related documents according to scores achieved according to a formula depending on the occurrence of terms which occur in text associated with the portion of the temporal document identified, where each term is weighted by a function $W(t)$ according to the time t at which the term occurs relative to the time at which the signal of interest occurs. However, Yeomans teaches weighting search results according to their predicted relevance. (Yeomans, col. 4, lines 60-62.) One of ordinary skill in the art would have recognized that weighting allowed users to see more relevant search results, and would also have recognized that search results may have been more or less relevant according to where they occurred in time. Therefore, it would have been obvious to one of ordinary skill in the art to implement the steps recited in claims 20 and 46.

Regarding **dependent claims 21 and 47**, Wistendahl et al. do not teach, but it would have been obvious to one of ordinary skill in the art to implement, selecting a predetermined number of documents, 1000, because it was well known in the art to limit search results to a predetermined number and one of ordinary skill in the art would have recognized that this

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provided the benefit of not overwhelming the user, and moreover would have recognized that 1,000 documents was an upper limit of the number of documents that could comfortably be retrieved.

Regarding **dependent claims 24 and 50**, Wistendahl et al. do not teach, but it would have been obvious to one of ordinary skill in the art to implement, the step of using terms in portions of the document other than the identified portion in calculating scores because one of ordinary skill in the art would have recognized that such terms could have a bearing on whether the document was relevant to the user's signal of interest.

Regarding **dependent claims 25 and 51**, Wistendahl et al. do not teach, but it would have been obvious to one of ordinary skill in the art to implement, the step of having the determination of documents receiving the highest scores carried out using compressed document surrogates because one of ordinary skill in the art would have recognized that working with compressed document surrogates would have been more efficient than working with the full document.

12. **Claims 22-23 and 48-49** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wistendahl et al., Logan et al., Giddings, and Yeomans as applied to claims 20 and 46 above, and further in view of S.E. Robertson et al., "Some Simple Effective Approximations to the 2-Poisson Model for Probabilistic Weighted Retrieval," Proceedings of the 17th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval (1994), pages 232-241 (hereinafter "Robertson").

Regarding **dependent claims 22-23 and 48-49**, Wistendahl et al. does not teach using Robertson's Term Frequency to provide a score to a document in a collection. However,

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Robertson teaches use of probabilistic models with variables comprising within-document, term frequency, document length, and within-query term frequency, and states that the method taught provides considerable performance improvements. (Robertson, Abstract, page 232.) Therefore, it would have been obvious to one of ordinary skill in the art to have implemented the steps recited in claims 22 and 48.

Allowable Subject Matter

13. **Claims 15-17 and 41-43** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. **Claims 26 and 52** would be allowable only if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter:

Regarding **dependent claims 15-17, 26, 41-43, and 52**, the prior art does not teach or suggest the formula recited in claims 15 and 41.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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U.S. Patent Number	Name	Issue Date	File Date	
6,415,281 B1	Anderson	7/2/02	9/3/97	
6,370,527 B1	Singhal	4/9/02	12/29/98	
6,326,982 B1	Wu et al.	12/4/01	6/24/99	
6,311,178 B1	Bi et al.	10/30/01	4/8/99	
6,243,676 B1	Wittman	6/5/01	12/23/98	
6,188,396 B1	Boezman et al.	2/13/01	3/29/96	
6,151,017	Suzuoka et al.	11/21/00	9/12/96	
6,073,130	Jacobson et al.	6/6/00	9/23/97	
5,778,181	Hidary et al.	7/7/98	3/14/96	

Greiff, "A Theory of Term Weighting Based on Exploratory Data Analysis," Proceedings of the 17th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval (1998), pages 11-19.

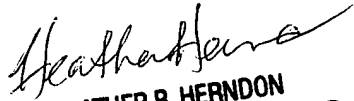
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles A. Bieneman whose telephone number is 703-305-8045.

The examiner can normally be reached on Monday - Thursday, 7:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on 703-308-5186. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

CAB
March 6, 2003


HEATHER R. HERNDON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100